SOCIAL SCIENCES

Manpower REVIEW

AN OFFICIAL PUBLICATION OF THE WAR MANPOWER COMMISSION

Vol. 11 April 1944 No. 4

AT Press TIME

Executive Order establishes Retraining and Reemployment Administration — SSS and WMC share responsibility to World War II veterans—Turn-over still a problem.

HOLDING THE LIMELIGHT of recent happenings is the Baruch-Hancock Report on War and Post-war Adjustment Policies. With its dynamic theme "To Win the War and to Prepare for Peace," this report to the Director of War Mobilization finds certain enumerated considerations to be of first importance. Among them, two have especial implications for the War Manpower Commission, its Veterans Employment Service Division, and the United States Employment Service. We quote:

. . . A general tightening up of the industrial war front so as to finish the bloody business with finality and then be ready for peace; and . . . The problem of bringing jobs to all workers, with emphasis laid upon the returning servicemen and servicewomen who are our first concern. . . .

With immediate demobilization policies geared to imperative war production, WMC and its USES, functioning as the manpower mobilization mechanism for the whole war production effort, are already directing returning ex-servicemen and women into war jobs wherever practicable; at the same time the USES local offices and the newly created Veterans Demonstration Offices are, in effect, seed plots for the development of effective placement procedures for veterans. In any gradual reconversion of industry as a result of production adjustments, USES placement activity in connection therewith will glimpse the larger task of post-war conversion which will involve a realigning of the whole labor force of some 30 million persons.

The over-all task of eventually bringing jobs to all workers will be unified. By Executive Order on February 24, in line with recommendations of the Baruch report, the President set up in the Office of War Mobilization a Retraining and Reemployment Administration headed by Brig. Gen. Frank T. Hines, the Administrator of Veterans Affairs. With the assistance of a Retraining and Reemployment Policy Board, consisting of nine members (representing the Department of Labor, the Federal Security Agency, the War Manpower Commission, the Selective Service System, the Veterans Administration, the Civil Service Commission, the War Department, the Navy Department, and the War Production Board) the new Administration will have general supervision and direction of the activities of all Government agencies relating to the retraining and reemployment of persons discharged or released from the armed services or from other war work. It will issue regulations and directions and advise on emergency problems with appropriate committees of Congress, and will develop programs in consultation with the agencies represented on the Policy Board. In other words, the Executive Order directs the new Administration to utilize existing agencies and function through them to the fullest extent possible, avoiding duplication and overlapping in the work now being done.

In a radio broadcast on March 4, calling upon the public for cooperation in his new assignment, Administrator Hines announced that a survey of specific assignments of the existing agencies was under way, including activities in connection with: jobs, vocational training, resumption of educations, special problems of disabled veterans, migration problems, adjustment of labor laws, retirement of older workers, adequacy of unemployment insurance, timing of release of workers from industry, rate and method of demobilization of the armed services, and a study of

Page

AT PRESS TIME 1

TRAINING ADVANCES BETTER MANPOWER UTILIZATION, *Philip S. Van Wyck* 3
THE TRAINING SERVICES IN ACTION 4
TRAINING COUNCILS, *John J. Tessari* 11
TRAINING IS AN ANCHOR, *Margaret A. Hickey* 12
TAILOR-MADE FOR INDUSTRY, *Max Chambers* 14
COLLEGES TRAIN FOR WAR, *H. T. Briscoe* 15
A CHANCE TO CATCH UP!, *Raymond S. Ward* 16

The MANPOWER REVIEW is published under authority of Public Resolution No. 57, approved May 11, 1922 (42 Stat. 541), as amended by section 307, Public Act 212, Seventy-second Congress, approved June 30, 1932, with approval of the Director, Bureau of the Budget.

The MANPOWER REVIEW is planned and edited in the War Manpower Commission, Reports and Analysis Service. Distributed without charge to personnel of the War Manpower Commission, it may be purchased from the Superintendent of Documents Government Printing Office, Washington 25, D. C., for 10 cents a copy or $1 for a year's subscription (for countries other than the United States, Canada, or Mexico, the subscription price is $1.40 a year).

Expressions of opinion in articles published in the REVIEW are those of the authors and are not to be construed as official opinions of the War Manpower Commission.

576965—44——1

demobilization plans of other countries, all of which have a bearing on the number one priority of the post-war period—"Getting us all back to work in peacetime enterprises."

¶ Concurrent with the integration of the activities of the several Government agencies devoted to servicing the needs of veterans and others, the War Manpower Commission and the Selective Service System have agreed on the parts the two agencies will play in returning veterans to civilian employment. Lines of responsibility are clearly defined. The joint statement signed by the heads of the two agencies and which gives effect to the policy agreed on, sets forth that the twofold duty of returning World War II veterans to their pre-service jobs or to new employment is assigned to the SSS under Section 8 (g) of the Selective Training and Service Act of 1940. The reemployment responsibility the SSS retains and delegates to its State Directors, but it relinquishes to the WMC the responsibility of "conducting an effective program designed to place the returned veterans in new positions." Thus the delegated responsibility of the USES as the job-placement agency for veterans of World War II is integrated with its mandated responsibility to the veterans of World War I and all other previous wars under the terms of the Wagner-Peyser Act of 1933.

The joint policy statement signed by Major General Lewis B. Hershey, the Selective Service Director, and Paul V. McNutt, WMC Chairman, concludes with this pronouncement on unity of purpose:

> The reintegration of the returning veteran to the civilian economy of this country is one of the most important duties of the Nation, both from an economic and patriotic point of view. It is particularly important that the agencies of the Selective Service System and the War Manpower Commission cooperate with a complete unity of purpose.
>
> While the reinstatement of veterans to their former positions is a primary objective of the Veterans Personnel Division (formerly the Reemployment Division) of the Selective Service System and the placement of veterans into new jobs is a primary objective of the USES of the WMC, ours is a joint effort, whose objectives must be accomplished in unity and cooperation between the two services.

¶ According to joint reports of the Bureau of Labor Statistics and the WMC, December 1943 was the first month since the start of the war that industry recorded a net loss of working force. Balancing quits, discharges and inductions (but not lay-offs) against hires, this net loss was three workers per thousand. If lay-offs are included, the net loss would reach 12 per thousand.

Reporting also on the latest industrial turn-over per thousand workers, the joint figures revealed there are each month 43 quits, five inductions, six discharges, 51 hires, and nine lay-offs. The reasons for these turn-over figures are somewhat different from those of the turbulent, competitive "retooling period of 1942" when turn-over as a result of unrestrained "labor pirating" became so extensive as to constitute a disruptive threat to war production and resulted in the initiation of employment stabilization programs, the first in Baltimore and followed by similar plans throughout the Nation.

Despite WMC's employment stabilization programs, which virtually eliminated labor pirating, other major causes for turn-over continue: inadequate housing, transportation, and eating facilities, and poor personnel practices. In addition, more recent developments such as lay-offs due to "production adjustments," and unwarranted optimism about an early end to the war (leading to a search for a permanent, peacetime job) are helping to keep turn-over rates up.

Turn-over also remains a serious problem in some industries such as aircraft and shipbuilding, especially where attempts are being made to increase the working force to meet extended production quotas. Present turn-over is also developing some special complicating factors. For instance, where production shifts ease manpower needs in a community and tighten them in others, quits inevitably accompany lay-offs. When one ordnance plant laid off 76 in every 100 workers, rumor worked its havoc and added 17 additional quits to make a total of 93 out of a hundred leaving jobs. Another less telling but unmistakable factor affecting the present tide of turn-over is the resurgent pull of "the comforts of home" and "a place of their own." Particularly is this true among women workers in the more strenuous occupations. One shipyard reported that 90 percent of the women hired worked less than six months, some of them quitting in a month or even less.

To minimize turn-over of this latter type, stress is being put on women in a community entering their own local labor market. If they do this, they also make it unnecessary for employers to import outside help that would intensify overcrowding in already overburdened areas.

A recent appeal by the Women's Advisory Committee of WMC has asked for the help of women's organizations in recruiting the women still needed in the war effort. WMC estimates place the required working force of women at a record total of 18,700,000 by July 1944—900,000 more than that date a year ago. The women's clubs are asked to gear their efforts to the employment needs and patterns of the WMC areas, and to plan their campaigns in cooperation with the local USES office because it knows when and where women are needed and what types of employment are open to them.

A constructive attempt to keep workers on the job or help them stay on the job at top efficiency, is the opening of 740 new community recreation centers in 225 critical production areas. The Division of Recreation of the U. S. Office of Community War Services, FSA, is helping to get programs under way in places where lack of adequate recreation is known to be one of the definite hindrances to top production. In this activity, it has had the cooperation of other Government agencies concerned with some aspect of community services, such as WMC, FPHA, FWA, and certain divisions of WPB. The communities to be helped are being selected on the basis of WMC's list of critical labor shortage areas.

The theme for the May 1944 issue of the Manpower Review will be: The Reestablishment Program for War Veterans.

Training Advances Better Manpower Utilization

TRAINING GATHERS unchallenged importance as labor supplies grow scarce. This has become evident in our present phase of manpower mobilization, when the Nation's labor-supply lines are running low, and it nevertheless is necessary to keep production lines moving. In seeking ways and means to do so, one practical expedient has emerged above others—better utilization of the existing work force. To realize this, we must seek all effective aids at our disposal, and among them training programs will play an ever-increasing role.

★ ★ ★

The several constituent and cooperating training agencies whose programs are coordinated in the War Manpower Commission's Bureau of Training are poised for the challenge. The current fiscal year has seen appropriations of nearly $135 million to operate training facilities—Federal, State, and local—valued at some $2.5 billion. This vast outlay of training facilities is at the service of the WMC, through agencies which have proved their adaptability to meet unexpected needs.

★ ★ ★

Since July 1940, these training agencies have given some form of war production training to approximately 10,500,000 persons. It involved such training undertakings as expansion of a nucleus of 400 welders to 12,000 in one shipbuilding district under an intensive training program sponsored by VOCATIONAL TRAINING FOR WAR PRODUCTION WORKERS; certification of nearly 5,000 supervisors in a great aircraft plant under a TRAINING WITHIN INDUSTRY program; apprentice training that resulted in greatly increased production of critically needed diamond dies under the guidance of APPRENTICE-TRAINING SERVICE; and the training of much-needed technicians in ship construction and repair fields under the ENGINEERING, SCIENCE AND MANAGEMENT WAR TRAINING program. These are but a few examples from among thousands that could be chosen to illustrate the effective contribution of each of the training services in the war manpower mobilization program.

★ ★ ★

Since the great bulk of employable manpower is already in the labor force, a change in training loads is taking place. Preemployment training programs have declined, while the training of persons already on pay rolls has increased. Again, because of the competition of low-skill, high-pay jobs which require little or no preparation, paid-trainee programs are effectively attracting people into skilled occupations. These programs not only facilitate better selection, screening, and training of workers, but they open up new fields of labor supply, such as women and veterans.

★ ★ ★

In the progress made toward better utilization of the working force in our war production industries, training has played an important part. Early in the war program, a great many workers entering war plants acquired a knowledge of their jobs through the pick-up process or trial-and-error method. This hit-or-miss "training" is expensive, wasteful, and inefficient. In its place there should be planned training programs—technical, managerial, supervisory, supplementary, extension, and upgrading—either in-plant or out-plant. They will pay immediate and generous dividends: total man-hours necessary for unit production can be reduced; machine and tool damage will decrease; material spoilage will be avoided; safety records will improve; and worker satisfaction will be reflected in decreased turn-over and absenteeism.

★ ★ ★

New areas of training with far-reaching benefits are constantly opening up. For example, careful training of the young chap who sits on the left-hand side of the cab of a modern locomotive and operates the controls of an automatic stoker may save several tons of vital fuel and get a train of critical war freight through in better time. This type of dividend may be the result of a job instruction training program of TRAINING WITHIN INDUSTRY, of coaching by a traveling fireman paid from VOCATIONAL TRAINING FOR WAR PRODUCTION WORKERS, or of a training program fostered by APPRENTICE-TRAINING SERVICE. In any case, good training has saved fuel and speeded up delivery of war goods.

Training programs, to reach their highest point of effectiveness, should be coordinated through the establishment of WMC training councils at the various levels of operation—regional, area, and State. The fullest cooperation should be maintained with placement and utilization offices in the field to the end that our coordinated activities may further the war effort.

★ ★ ★

Hand in hand with good coordination of the training programs is complete and accurate local employment office reporting with regard to the subjects covered on the ES–210 and ES–270 reports. These reports are of great value to training people at all levels, since they point out labor supply and demand in certain areas, thus providing a basis for the location and types of training programs. Our chiefs of training and their confreres at all levels need planning information and there is an increased national need for evaluation of the results of training.

—PHILIP S. VAN WYCK, *Director, Bureau of Training, War Manpower Commission.*

THE TRAINING SERVICES IN ACTION

ATS LOOKS AT PRESENT AND THE FUTURE

Apprentice-Training Service advises plants on over-all training problems and promotes training through apprenticeship to develop all-round skilled workers, and other programs to develop workers of more limited skill; all coordinated with the training services supplied by other agencies.

APPRENTICE-TRAINING SERVICE does not give any actual training courses. Rather, it helps prepare the way for sound training programs through its help to industry in the development of short-term and apprenticeship training programs, over-all training recommendations for skilled and unskilled trades alike, and technical assistance on problems involved in the training of men and women. Its job, in other words, is to give impartial consultant service to the employer; to assist him in analyzing his training needs and to set up a training program which will develop the skills needed to meet his production requirements.

The APPRENTICE-TRAINING SERVICE was originally established under an Act of Congress to set up standards to guide industry in employing and training apprentices; to bring management and labor together to formulate plans for the training of apprentices; to appoint such national committees as might be needed; and to promote general acceptance of the standards and procedures agreed upon. A good start had been made toward carrying out this mandate when it became apparent that a vast expansion of employment would occur under what was then termed our "defense program." The situation was so serious that it was decided industry should be encouraged to give far greater attention to over-all worker training than was possible through the regular apprenticeship procedures.

Short-term Training.—Taking a leaf from its apprenticeship book, which had demonstrated the value of joint action by management and labor in organizing programs for the training of apprentices, ATS decided to follow much the same procedure. A national committee, composed of representatives of management and labor, was assigned to consider the problem of employing and training persons in skills below the apprenticeship level. This committee and the Federal Committee on Apprenticeship recognized that the primary objective should be to train workers quickly for specific defense jobs. This short-term training is designed to meet production needs in a particular plant and must be based on an analysis of the plant's labor needs. Plants in the same community manufacturing identical products may require different types of training This may be due to variations in the way production is engineered, to the use of dissimilar equipment, or to variance in the degrees of skill of the plant's employees. Again, some products are mass-produced and others are produced almost wholly by hand. Obviously, a single training program could not meet the training needs in all these varied circumstances.

For the more skilled jobs it may be necessary to provide on-the-job training for each of the workers being prepared for upgrading. Some, possibly all (depending on the job requirements and previous training) will need a certain amount of training in basic subjects related to the new job, as well as in the mechanics of the job. The new workers will either be trained in a school for the specific jobs they are to fill, or they may receive their training on the job. How they will be trained depends on the training facilities available in the community.

Labor Relations Problems.—In assisting essential war industries to organize training programs, ATS does not overlook the labor relations aspects of employment and training. When making a training analysis of a plant ATS field representatives learn which, if any, union is the bargaining agency and to what extent the terms of the bargaining agreement may limit operation of the program proposed for the plant. A union's interest in training is not confined to the technical features of the bargaining agreement but embraces other factors affecting the welfare of its members. Armed with knowledge of the plant's training problem and its labor relations, the field representative is then prepared to discuss his recommendations with both management and union officials. Frequently a joint management-labor committee is then

established to prepare a training policy to which both the employer and union can subscribe. In some instances it has been found necessary to formulate a supplement to the bargaining agreement to facilitate the employment and training program which is to be undertaken.

Training Apprentices in Wartime.—In assisting a plant, ATS endeavors to give adequate attention to all training needs, i. e., what the plant should do now; what it will need to do in a year or more. This raises the problem of training workers through apprenticeship for all-round skills. Some persons question whether a war industry should attempt to train apprentices when every effort should be directed toward production; or, they ask, why talk of training apprentices when most of the young men in the normal apprentice age group are, or soon will be, in the armed forces. This problem was referred to the Federal Committee on Apprenticeship (the ATS management-labor policy committee) over a year ago. The committee recommended that (1) every reasonable effort be made to continue the training of apprentices in essential war industries; (2) each apprenticeship program be based on an analysis of the probable labor needs of the individual plant; (3) the apprenticeship program be so established as to permit the earliest possible completion of apprenticeship during wartime; (4) those responsible for existing apprenticeship programs be encouraged to graduate advanced apprentices into skilled worker classifications as quickly as they prove themselves competent to perform the work of the trade.

Recognizing the probability that practically all apprentices and even the younger all-round skilled workers, regardless of the importance of their skills, would be called to military service before the war ends, the Federal Committee also offered recommendations concerning the types of persons to be considered for apprenticeship training: (1) Where a plant needs all-round skilled workers at the earliest possible time, apprentices should be selected from those groups of workers least likely to be called to military service. These include honorably discharged veterans of the present war, older workers with family responsibilities, men classified as IV–F, handicapped persons (usually classified IV–F), and women (for some trades). (2) Where a plant is not in immediate need of all-round skilled workers but has the facilities for training them, it should be encouraged to establish an apprenticeship program for 16- to 17-year-old boys and to provide for their continued attendance at high school.

Assurance cannot be offered that the boy of 16 today will not be in the Army or Navy when he reaches his 18th birthday, but ATS points out to the employer that these youthful apprentices, as do all apprentices, become and continue to be producers from the first day of their training period. Thus, the Nation is benefiting from their newly acquired skills today on the home front, and will also benefit later when these young men are called to military service.

During the last 2 years a number of organizations which established apprenticeship programs for these less-than-draft age youths have apprised ATS of results. Practically all have been solicitous to see that high school work is continued while students are receiving their apprentice training—a policy ATS has encouraged. Some have even gone so far as to bring the high school into the plant, instead of sending the boys to the school; related trade subjects, under these circumstances, are taught the apprentices under normal classroom conditions. Experience with respect to deportment, ability to learn, and ability to turn out work, they report, compares favorably with that of apprentices of 18 or 19 years of age. Judging from the successful experience of plants which have pioneered in the training of these boys, areas now experiencing difficulty in securing workers should obtain relief from setting up sound apprenticeship programs of this type.

Older Workers as Apprentices.—Not so long ago many plants were claiming that older men would not care to be called "apprentices"; that, moreover, these "oldsters" could not be expected to learn a skilled trade, nor could they be expected to subsist on apprentice wages. It has been found, however, that many older employees who have had partial experience in a trade welcome an opportunity to receive extra training qualifying them as all-round skilled workers and they do just about as well as the younger ones in the training process. It was found, too, that the wage question poses no difficulties at all, because the worker is transferred to apprenticeship status without loss of pay and is granted credit for past experience, thus entitling him to one or more pay raises even before he completes his apprenticeship.

Veterans and Handicapped as Apprentices.—Many apprenticeship programs now provide specifically for training of returning veterans. Employers have indicated they would be happy either to expand their present programs or to organize new ones if they could

NEW ATS PAMPHLET

"Training Teamwork" **is the title of a pamphlet which tells how management and labor have worked together in Joint Apprenticeship and Training Committees to deal specifically with training problems. It consists of extracts from previously published reports of training programs in five different establishments in five States; and a general background story describing how and when the labor-management movement in industrial training started and spread. Beginning in 1934 with the Federal Committee on Apprenticeship, according to *"Training Teamwork,"* 1,310 Joint Committees have sprung up in the national apprenticeship program.**

To eliminate possible confusion between Labor-Management Committees (WPD) and Joint Committees (ATS), definitions of each are given in the foreword to *"Training Teamwork."* L–M Committees are identified as concerned with over-all production problems, while Joint (Apprentice-Training) Committees specialize in training problems.

At the conclusion of the 16-page leaflet, there is a list of bulletins and brochures that have been issued by the Apprentice-Training Service. Those listed describe problems that were solved by Joint Committees designing and conducting apprenticeship and short-term training programs to develop skilled workers.

Copies of *"Training Teamwork"* may be obtained by addressing requests to: AA–14, Apprentice-Training Service, WMC Building, 1778 Pennsylvania Avenue NW., Washington 25, D. C.

recruit a sufficient number of veterans to train as apprentices. As a consequence, many labor organizations are trying to stimulate apprentice recruits among veterans through regular campaigns of local unions. Several of the State federations of labor have passed resolutions calling for action by their State officers to assure veterans adequate apprenticeship opportunities. Indeed, one State federation of labor has already held a conference, participated in by representatives of employer organizations and interested Government agencies, which has resulted in a coordinated plan of action for each of the agencies participating.—WILLIAM F. PATTERSON, *Director, Apprentice-Training Service, Bureau of Training, War Manpower Commission.*

VTWPW PROGRAM AN INTEGRAL PART OF MANPOWER UTILIZATION

***Vocational Training for War Production Workers,* in cooperation with State and local boards of vocational education, provides occupational training in courses of less than college grade to workers in war production industries.**

DOES PUBLIC vocational education have the adaptability to meet any situation involving training of both skilled and semiskilled workers? Vocational training—a definite part of the manpower program—has given a resounding "Yes!" to this question.

When the wartime emergency began, the Nation was faced with a serious shortage of trained mechanics. Since it is impossible to train skilled tradesmen in a short time, it became necessary to train vast numbers of workers in single skills. The public vocational schools which had nearly a quarter of a century of trade and industrial education experience were waiting to do this essential training job. What does the record of accomplishment show?

More than 6 million men and women have been given training chiefly for jobs in such industries as aviation, shipbuilding, machine tools, and ordnance. Workers have also been trained for such essential industries as mining, lumbering, hides, motor and railroad transportation, and communications. More than 1 million women, new to the labor market, have received training in the public vocational schools.

Total enrollments have included 500,000 supervisors, foreman trainers and instructors as well as 500,000 civilian employees and uniformed personnel of the armed forces—civilian mechanic-learners (radio) for the U. S. Army Signal Corps, civilian mechanics for the Air Service Command, and enlisted personnel for branches of the U. S. Navy. An incidental contribution for the U. S. Navy was the training of thousands of civilian mechanics to repair and maintain facilities damaged in the Japanese attack at Pearl Harbor. Civilian workers and enlisted personnel trained by the public vocational schools for the armed services are serving around the world.

The program of VOCATIONAL TRAINING FOR WAR PRODUCTION WORKERS, now in its fourth year, is governed by three important considerations: (1) The training program is a definite part of the over-all manpower program; (2) it operates in the area of national manpower policy coordinated by the War Manpower Commission which concerns the preparation of workers for employment in specific war industries or workers who are seeking to advance themselves to jobs requiring greater skills, knowledge, and responsibility; (3) the training program is a cooperative undertaking between the Federal Government and the States, governed by a State plan which sets broad standards concerning instructor and supervisor qualifications, representative advisory committees, and types of training. Cost is defrayed by funds certified to the States by the U. S. office of Education. The WMC approves the list of occupations for which training may be given.

The conduct of the training program required the preparation of special instructional materials to meet war conditions and several of the States established instructional materials laboratories. A total of 101 instructional monographs dealing with shipbuilding occupations, aircraft manufacturing, electrical manufacturing, machine shop, sheet metal, inspection practices, have been developed and are being used by training programs of war manufacturers, the Army, the Navy, and other agencies.

Currently, the vocational schools are serving war production industry by providing consultative services to war employers and organizing training programs in the schools or in plants to meet specific training needs, such as the training of specialists, or in the selection and training of instructors, foremen, and supervisors. Much of the training is for the purpose of replacement and for the refining of the skills of war plant workers.

Training programs are in wide use for upgrading workers to serve as leaders in the training of others, or to broaden their skills so that they may be transferable from one department to another. Many war plant workers are increasing their skills through combination on-the-job instruction with part-time class instruction. This type of instruction is likely to be increasingly important as a productive means of increasing workers' output without taking them from their work for periods that interfere with production. On-the-job production line "paid" training will continue to be an important means of training new workers, particularly women, for the replacing of others.

The U. S. Office of Education and State Boards of Vocational Education are continually planning to meet future training needs. At the present time, for example, a committee of professional and vocational educators and representatives of industry and organized labor is surveying the needs of industry in the field of vocational technical training, giving recognition to the changes in technical aspects of industry and the increasing demand for trained technicians. This committee is gathering information dealing with the need for preemployment and supplementary training of subprofessional technicians.

The public vocational schools are equipped in most instances to meet changing training needs quickly and effectively. The State Directors and local vocational directors are in constant touch with employers. The U. S. Office of Education maintains special representatives in regional offices of the WMC to deal quickly with training needs coming within the legal responsibility of VOCATIONAL TRAINING FOR WAR PRODUCTION WORKERS. The States and the public vocational schools are guided by advisory committees, consisting of equal representation of mangement and labor. These advisory committees are given valuable assistance by WMC training agency representatives serving as consultants to the committees.

The primary purpose of the training program in the immediate future will continue to be the training of workers for specific occupations in specific industries and, where possible, for specific plants. Local public vocational schools are the heart of the program in a given community, and closely parallel the training needs in the community. Greatly reenforced in capacity, equipment, instructional staff, and supervisory personnel since the outbreak of the war, these schools will also be ready to retrain our returning veterans and war workers.—L. S. HAWKINS, *Director, Vocational Training for War Production Workers, U. S. Office of Education.*

TWI SEES BETTER MANAGEMENT THROUGH SKILLED SUPERVISION

Training Within Industry Service advises war industries on over-all training problems and promotes attention to supervision through job instruction, job methods, job relations, and program development training.

ALL MANAGEMENTS WORK through supervisors, and all supervisors get results through workers. All supervisors, therefore, are really part of management. This is true in Government, in industry, in trade, in the armed services, in every organized group of people who are joined together to do any kind of work.

Top management in any group is relatively small in proportion to the number of people in nonsupervisory positions. It usually does not have direct contact with the large number of people who perform the actual work which is the objective of the group. Thus, Glenn L. Martin personally does not show a riveter how to work on Martin planes, Admiral King personally does not direct the fire of any destroyer, and Paul McNutt does not personally get any person to move into a job in an essential industry. But getting the work done is the ultimate responsibility of these top men. Top management makes plans and sets policies and makes commitments for accomplishment of results, but reaches the workers, the operators, the producers, through the other members of management called "supervisors." These supervisors have a dual function: they must interpret management policy to the workers, and they must see that the work gets out on time in sufficient quantity, and up to standard quality. In order adequately to fill the supervisory job, each supervisor needs assistance in the following five fields.

1. ***Knowledge of the Work.***—Every supervisor has to know *what the work is* and *how* it is to be done. He may or may not have technical proficiency in performing each separate kind of work, but he must know what has to be done and what standards are required.

2. ***Knowledge of Responsibilities.***—A highly skilled supervisor from a New England machine shop could not be expected to be able to operate a machine shop in Texas under a specific union contract, according to specific company policies. The supervisor has to know just what his responsibilities are, just what top management expects of him, just what agreements and contracts and regulations apply to the specific situation.

Many supervisors have become supervisors through upgrading—they acquire much organization knowledge before they become supervisors. This gives them a start on their "knowledge needs," but often knowledge casually acquired is incomplete. Management therefore has to *make sure* that its supervisors really *know* both the work they direct and the responsibilities they must carry.

Management alone can identify just what these knowledge needs are for the particular organization, and it is management's job to see that its supervisors get the training they need in this field.

3. ***Skill of Instruction.***—Every supervisor has the problem of "breaking-in" people for new work. Work changes, new people are hired, workers must frequently learn how to turn out a new kind of work. Particularly in times of manpower shortage, it is important to see that work is not slowed down while people "catch on" or "pick up" jobs. There is not time to let them learn. They must be instructed.

4. ***Skill of Improving Methods.***—Doing a job the same way it has always been done is not good enough—not good enough in any efficient, well-run organization in peacetime, and certainly not in wartime. It is up to the supervisor to question every detail of performance and to continually improve methods.

5. ***Skill of Leading.***—The supervisor gets his results from the effort of the people whose work he directs, not from the machines they run nor the equipment they use. There is a specific supervisory skill, which can be acquired and developed through practice, in working with people in a way which creates good relations on the job and improves the handling of personnel problems.

These last three skills are common to all supervisory work; once acquired, they are applicable in totally different supervisory positions in any type of work—in any location.

During its three and a half years of existence the TRAINING WITHIN INDUSTRY SERVICE has assisted over 12,000 plants, with an intensive program which has been developed for management use in the field of these three skills.

By March 1, 1944, over 800,000 supervisors had been reached with job instruction, 125,000 with job methods, and 235,000 through job relations, and the current weekly total of supervisors for the three programs averages 15,000. Each of the three phases of TWI is a work program of five 2-hour meetings. A specific method is presented in each program and 80 percent of the time is given to practice by the supervisors in the *use* of the method on their own problems. These programs do *not* give supervisors the skills. Skills come through practice, and practice, or use, is the direct result of management backing and support, and insistence that skilled supervision at all levels of management be developed through training on the job.—C. R. DOOLEY, *Director, Training Within Industry Service, Bureau of Training, War Manpower Commission.*

VAS PROVIDES VISUAL AIDS FOR WAR TRAINING

Visual Aids Service **provides motion pictures, film strips, and instructor's manuals as aids in the war training program.**

TWO WEEKS before Pearl Harbor the first visual aids for war training of the U. S. Office of Education were placed on the market. So well have these films done their job that War Manpower Commission Chairman McNutt recently termed them America's "secret training weapon" putting "war industry workers on the production line in one-fourth to one-third less time."

Today the Office of Education has over 75 training films in continuous use in vocational schools, in war plants, in the Army and Navy, covering machine shop work, aircraft work, and shipbuilding. They range from "Cutting Keyways" on a milling machine to the "C" and "D" scales on the "Slide Rule." Within the next two or three months 100 more visual training aids will be available. By next fall an additional 300 will be ready. These will cover many areas: farm work, optical craftsmanship, supervisor training, forging, foundry, nursing, engineering, electrical work, wood patternmaking, plastics, and automotive maintenance.

Subjects for the films come from training needs. These needs are closely examined to determine their motion-picture possibilities and to ascertain whether training aids are not already available (either motion pictures or other aids). The subject areas are approved by the Chairman of the WMC and the subjects themselves by a committee of training experts in the Office of Education.

Production of the films is done by educational motion picture companies. Each film is supervised by a technical specialist and a visual specialist of the Office of Education, and by a local committee of technical and training experts in the locality in which the picture is produced.

The films acutally cost the Government nothing, since they are sold by the Office of Education at a rate calculated to return the full cost of production. Yet prices are not excessive—$17.35 for a one-reel sound motion picture, $1.00 for the coordinated filmstrip, with the instructor's manual furnished free of charge. Schools and other nonprofit institutions receive a 10 percent discount.

Over 30,000 prints have been sold and sales are still continuing more than 2 years after they were first released. Industrial training leaders have spoken of their value: "Did more good in 2 weeks than instructors could in 2 years." . . . "Don't know what we would have done without the pictures." . . . "Worth many times the money we spent for them."

This is the first time that the Office of Education has produced films in integrated series, graduated in difficulty, and intended to form basic curricular material designed to gear into organized courses of instruction. It is also the first time that integrated visual *units* have been developed with motion picture, filmstrip, and instructor's manual, planned and produced as an instructional unit to meet today's training needs.

Visual training aids are not merely a wartime expediency. The National Industrial Conference Board reports that 62 percent of the companies covered in a recent survey were using them; further, 85 percent of the executives of these firms stated that they intend to continue the use of visual aids after the war.—C. F. KLINEFELTER, *Assistant to the Commissioner, U. S. Office of Education.*

* * *

DISTRIBUTION of these films is handled by Castle Films, contractual distributor for the Government, who can provide further information regarding the films. Information may be secured by writing to one of its three offices: 30 Rockefeller Plaza, New York City; Field Building, Chicago, Ill.; or Russ Building, San Francisco, Calif.

ESMWT COLLEGES MEET WAR INDUSTRY'S PROFESSIONAL TRAINING NEEDS

Engineering, Science, and Management War Training **program, in cooperation with colleges and universities, provides short courses of college grade designed to meet the shortage of engineers, chemists, physicists, and production supervisors in fields essential to the National war effort.**

PROFESSIONAL ENGINEERS—chemists—physicists—management specialists—practically everyone in these slowly learned occupations was snapped up at the war's beginning. Fortunately, the shortage of such people has been at least partly averted through the cooperation of the colleges and universities which have been participating in ENGINEERING, SCIENCE, AND MANAGEMENT WAR TRAINING since 1940. These institutions have trained thousands of men and women through short courses so that the continued demands of war production could be met.

ESMWT has been established primarily to serve three main groups of applicants:

(1) ***Unemployed high-school graduates lacking indus-***

trial experience who can be trained to perform essential jobs in engineering, chemistry, physics, or management. Necessarily, the bulk of ESMWT is concentrated here. Their instruction does not train them to be "full-fledged" engineers, chemists, physicists, or production supervisors, but rather prepares men and women to take part of the burden from the shoulders of key men. Thus, thousands of women are being trained as engineering draftsmen, aircraft-stress computers, precision inspectors, and occupations calling for a similar level of skill.

(2) ***More mature persons with professional or related experience now either unemployed or employed in less-essential industries.*** They may rapidly gain proficiency through ESMWT for employment in a critical field. Illustrative of this are the retraining of construction engineers for mechanical, electrical, and aeronautical engineering employment; the grooming of managers from less-essential industries for managerial posts in war work; and the advanced training of recent technical-college graduates.

The University of Chicago, Stanford University, Harvard University, the University of Pennsylvania, and the Illinois Institute of Technology, among others, have succeeded admirably in refurbishing the talents of displaced executives. Typical members of a retraining class are married men, over forty, with one or two children. Most of them are college graduates. Upon completing about 500 hours of class and laboratory work in modern war production techniques, salesmen have become production expeditors, investment managers have been employed as job evaluation technicians, and bank tellers have made good as purchasing agents. Mature women, too, have done well in these courses.

The recent college graduate may require somewhat different training. An ESMWT course in advanced mechanics offered at Brown University and at New York University is turning such people into specialists in the mathematical analysis of research problems. Such trainees are now professionally employed with such research organizations as the David Taylor Model Basin, the National Advisory Committee for Aeronautics, and the National Defense Research Committee. Similar results have been attained through the widely-conducted instruction in ultra-high frequency techniques, held for graduate electrical engineers and physicists.

(3) ***War industry employees who can progress, through ESMWT, to jobs of greater responsibility.*** A very high proportion of ESMWT courses are now designed, in consultation with war employers, for this purpose. ESMWT has helped airplane draftsmen to become designers; General Electric designers have been given instruction in electrical-induction, metallurgical equipment; Sperry Gyroscope employees have taken courses in advanced applications of mathematics, physics, and electronics to fire-control and flight instruments; and personnel of companies engaged in the design and construction of new catalytic, petroleum-cracking plants have attended ESMWT courses in heat exchanger and pressure-vessel design.

All of these courses, whether elementary or advanced, preemployment or upgrading, are free. The Federal Government pays all costs of instruction, leaving only the cost of textbooks and minor supplies to be met by the trainee. If one desires full-time instruction, he can be accommodated in classes that meet daytimes for about 40 hours a week. If his time is more fully occupied, he can attend evening classes two or more nights a week. Whichever he chooses, the courses can be completed in from 8 to 16 weeks.

The 200 participating institutions are conducting ESMWT classes throughout the Nation in over 1,000 towns and cities near the homes and workplaces of those who wish to enroll. The ESMWT Institutional Representatives at those institutions publish the dates and locations at which courses start and handle details of enrollment.

During the months to come, no significant changes in ESMWT are anticipated. Although war production has apparently reached its peak, the need for short, college-level courses is expected to continue. This belief is strengthened by (*a*) the utilization of colleges for specialized military training, and the reduction of the Selective Service age limit to 18 which have resulted in marked curtailment of the graduates available for industrial employment; (*b*) the heavy drain to the armed forces of the younger professional and technical men in civilian enterprises; and (*c*) the need for trained personnel to replace those upgraded to more responsible positions. All of these factors indicate that at least half-a-million more persons with ESMWT background will be needed this year.—GEORGE W. CASE, *Director of Engineering, Science, and Management War Training, U. S. Office of Education.*

RESULTS OF STUDENT WAR LOANS PROGRAM

Student Loan **program in the U. S. Office of Education provides assistance to students taking training in technical and professional fields. No funds were appropriated for 1943–44 but the unused balance from 1942–43 may be used for additional loans for students who received loans in 1942–43 for taking training in certain technical and professional fields.**

IN JULY 1942, the Congress appropriated $5 million to provide loans to students in the following professional and technical fields which were found to be facing a critical shortage of trained personnel: engineering, physics, chemistry, medicine (including veterinary), dentistry, and pharmacy. During the fiscal year 1943 a total of 11,081 students in 286 colleges and universities received war loans amounting to $2,941,301.64.

The lowering of the draft age, the subsequent establishment of the Army Specialized Training Program, and the Navy V–12 Program had so seriously affected the usefulness of the war loans by the summer of 1943 that Congress called for their termination at the end of the current fiscal year, no new applicants to be accepted after June 30, 1943. As a result of this

limitation, and with borrowers constantly being graduated or drawn into the armed forces, the number of students on the program dwindled to 1,398 by January 1, 1944.

Here is a revealing summary of separations of war loans borrowers, reported as of December 31, 1943:

Inducted by Selective Service before graduation	72
Entered service voluntarily before graduation	3,413
Graduated and in military service	970
Graduated and placed in essential employment	1,444
Graduated but not yet placed	111
Authorized withdrawal for illness, etc	80
Withdrawal outside terms of agreement	23
Died	2
	6,115

These figures show that a great majority of the beneficiaries of the loans program entered the armed forces; thus they were lost to the essential civilian services for which it was originally intended to prepare them. However, during a war emergency period when confusion invaded college campuses, the loans did enable over 11,000 professional and technical students to continue toward their educational objectives through training in war-related fields.

FPWT REACHES OUT TO A BROADER FIELD

Food Production War Training **program, in cooperation with State and local boards of vocational education, provides training of less than college grade in food production and conservation, mechanics, farm machinery repairs, and farm labor training.**

THE OVER-ALL manpower shortage which struck at farms as well as industry caused a radical change in the program and goals of FOOD PRODUCTION WAR TRAINING. Originally designed to provide general preemployment training for out-of-school rural and nonrural youth so that they could take industrial jobs, the program veered sharply when the surplus manpower supply in farm areas dwindled. Now out-of-school youth, adults, and in-school youth may enroll for training, not for industrial jobs but for agricultural work. The removal of age limitations, school and locality restrictions will doubtless increase the demand for training, resulting in both additional courses and expanded facilities.

Because of the increased interest in victory gardening, and production and conservation of food for family use, urbanites, too, will be given a chance to enroll in such courses, and predictions are that they will be popular. For instance, it is estimated that there were 20 million victory gardens in the United States last year. A very large proportion of these were cared for by boys and girls enrolled in the public schools who had no previous training or experience in tilling the soil. The goal this year is for 22 million victory gardens. Consequently, this presages a very great demand throughout the entire United States for the balance of the current fiscal year and next year for short-unit, intensive training courses in vegetable gardening to meet the needs of in-school youth who are expected to shoulder much of the load of victory gardening.

Last year there was a total of 65,996 short-unit FOOD PRODUCTION WAR TRAINING programs distributed among all of the various types of courses offered in approximately 10,000 rural communities. Of these 65,996 courses, 26,546 were mechanical courses and our latest data indicate that there was a total of well over 1 million persons enrolled in this particular emergency training program last year.

While in the past major emphasis in all farm mechanics courses has been given to instruction in the repair, operation, and maintenance of farm machinery and equipment, more attention in the future will of necessity need to be given to repair and maintenance of farm buildings and structures. One only needs to take a trip across the great farming areas of this country to realize that expensive farm machinery is being allowed to rust and deteriorate out in the open fields. Also the gradual dilapidation of farm buildings, many of which if neglected much longer will be run down beyond repair, stands as mute evidence to the crying need for a Nation-wide educational campaign and instructional repair program to protect farm buildings and equipment.

Here is an instance that indicates the interest and sympathetic attitude of the general public toward this program. A special committee of 20 presidents and deans of land-grant colleges and universities submitted a report to the executive committee of the Land-Grant College Association. In the report, repeated reference was made to the importance to the war effort of the work of teachers of vocational agriculture. One typical reference states that "the vocational agricultural teaching staff, spread widely in American communities, is an indispensable agency in the agricultural war training and production program. . . . With the agricultural extension staff, these teachers constitute the surest channel through which farm people may be aided to meet production goals."

Since there is a consensus that production of food commodities will increase rather than decrease for some time after the war while worn-out overseas nations are rebuilding their own agricultural industry, greater attention and emphasis will in all likelihood be given to our FOOD PRODUCTION WAR TRAINING programs during the next few years.—W. T. SPANTON, *Director, Food Production War Training, U. S. Office of Education.*

Over 10 Million Trained

THE BUREAU OF TRAINING, reporting cumulative figures from the beginning of the war training programs through December 31, 1943, indicates that 9,464,603 persons have completed training under these programs. In addition, 1,055,009 supervisors have received certificates of completion of training under the TRAINING WITHIN INDUSTRY SERVICE program, making a combined total of 10,926,816. APPRENTICE-TRAINING SERVICE in the same period has served 28,160 plants.

Training Councils

. . By JOHN J. TESSARI

Chief, Industrial and Vocational Division, Bureau of Training, War Manpower Commission

A NATIONAL SYSTEM of training councils is being promoted by the Bureau of Training as a practical method for achieving effective integration and coordination of the programs of the war training agencies at all levels of operation. Through this device, the specialized training services of the constituent and cooperating agencies affiliated with the Bureau are blended together into a unified program geared to the needs of essential wartime industries.

This plan of operation is not new. At the national level, in most regions, and in some areas, training councils have been successfully operating for several months; they are now being extended to all States and all important labor market areas.

The functions of the training councils at different levels of operation vary according to the degree and scope of the responsibility and authority vested in the agency representatives at the national, regional, State, and area levels, who make up the membership of the councils. Basically, however, the training councils at all levels have four primary functions: First, to plan and develop the over-all training program for the geographical unit served, based on the needs for training as determined by the War Manpower Commission; second, to exchange information, ideas, and experiences so that a common understanding and appreciation of the policies, activities, and services of each agency, including the WMC, is achieved as a basis for close working relationship among all agencies; third, to determine which services shall be utilized in meeting specific training needs, as defined in the program jointly agreed upon; and fourth, to evaluate results.

Reports Reveal Training Needs

The needs for training are determined largely through analysis of various reporting devices developed by WMC and the training agencies for that purpose, such as ES–270 reports and Supplement A, manning tables, utilization surveys, plant training surveys, special industry reports, etc. Having determined the need for training, the next step is to establish the relative priority of the training needs. This is arrived at through information obtained from Production Urgency Committees, Manpower Priorities Committees, and the procurement agencies.

From these data, the council, in terms of the training facilities within its jurisdiction or within the power of the area to produce, develops a training program to meet the established training needs, and determines the part each training agency will play in the realization of the objectives decided on. The plant service control table developed by the Bureau of Training is a valuable operating tool for this purpose.

Membership is Representative

While no hard and fast rule has been established to limit the membership of the councils, it has been agreed that representatives of all the war training agencies, ATS, ESMWT, FPWT, TWI, VTWPW, and appropriate representatives of the Training, Utilization, and Placement Divisions of the WMC will be included, although some variations in this basic pattern will occur because some agencies do not maintain a staff in all States and areas.

Provision is also made for the inclusion of other representatives as the need requires specialized assistance and advice. For example, New York State has already invited representatives of the Veterans' Administration to participate in the meetings of the training councils in that State. At all levels, consultants and industry representatives may be called upon to participate in discussions of a specialized nature. While flexibility in council membership is desirable, it is important that the group be kept small. Experience has shown that indiscriminate additions to membership will complicate the operation of the council and reduce its effectiveness. To prevent conflict and multiple attendance of training agency representatives, each agency through its appropriate official should designate a person to represent the agency at all meetings and provide for alternates as necessary.

In some instances, the persons selected to represent the agencies on the council have been appointed to membership by a letter from the Manpower Director. This type of formal appointment has the desirable effect of giving the council status in the program of the WMC, and also provides an excellent device for limiting regular membership.

At the national level, meetings of the Headquarters Training Council are held weekly, but at other levels the training councils usually meet semimonthly or monthly. More frequent meetings are necessary during the initial organization stage than later. Regularity of meetings is essential, but provision should be made for calling special meetings when conditions make them necessary. In the field, the War Manpower Chief of Training serves as Chairman of the Council.

Training councils are most effective at the area or State level where policies are translated into action and the results of action are evaluated. These are the proving grounds for policies and it is at these levels that necessary changes in policy will be evident. It is therefore very important that a flow of relevant information from these levels, through to staff headquarters, be facilitated. The effectiveness of the

(*Continued on Page 14*)

Training is an Anchor

. . *By* MARGARET A. HICKEY

Chairman, Women's Advisory Committee, War Manpower Commission

TRAINING KEEPS women on the job and attracts new women recruits to war jobs. With the self-confidence engendered by training, women eagerly undertake new and more difficult war tasks and remain more steadfast in them.

Since most women entering the wartime labor market are new to the work and to the entire system of industrial production, it is obvious that time, money, and effort can be saved by drilling them in the untried tasks they are importuned to do.

Long before Pearl Harbor, military men, Government people, and educators foresaw the probability that women would be needed in war work, and set about supplying the need. The first impetus, of course, was given by the shortage of labor in the manufacture of materials for the Lend-Lease program. Courses in training women for war work were set up in the first half of 1940 and by June 30, 1941 (the end of the 1940 fiscal year), 5,402 women had enrolled for training under the programs of Government agencies. The breath-taking speed with which this training of women for war work increased is shown by the following table of enrollments in the programs of the constituent and cooperating training agencies of WMC's Bureau of Training (figures, except 1944, are as of the end of the fiscal year and are cumulative):

Fiscal year	*Enrollments*
1941	5,402
1942	289,724
1943	1,277,380
1944 [1]	2,223,658

[1] Figures are for the last 6 months of 1943 only.

Only 4 percent of those who had enrolled for training from the time training programs began through December 1941 were women; but by the end of December 1943, 20 percent of the enrollees were women. Total enrollment for all programs, men and women, cumulative from June 30, 1940, to December 31, 1943, was 10,926,816. Of these 2,223,658 were women.

Enrollment at the end of 1943, men, women, and totals, by constituent and cooperating agencies of the Bureau of Training of the WMC (except the Apprentice-Training Service, which does not receive figures showing the number of apprentices enrolled in industrial plant training) was:

Agency	Men	Women	Total
Vocational Training for War Production Workers:			
Preemployment	1,977,201	527,773	2,504,974
Supplementary	2,821,312	553,256	3,374,568
Engineering, Science, and Management War Training	1,136,646	207,601	1,344,247
Food Production War Training	1,336,514	538,748	1,875,262
National Youth Administration [1]	516,179	256,577	772,756
Training Within Industry	915,306	139,703	1,055,009
	8,703,158	2,223,658	10,926,816

[1] NYA was abolished by order of Congress, June 30, 1943.

Controlling excessive turn-over is one of WMC's chief problems. According to Philip S. Van Wyck, Director of the Bureau of Training: "The experience of many plants which have employed women indicates a relatively higher rate of turn-over among women than among men. It is the firm contention of the Bureau of Training that excessive turn-over is, in large part, due to faulty training."

A survey of absenteeism and turn-over in the shipyards of Washington, Oregon, and California showed that the longer the period of introductory training, the longer women stay on the job after they are hired. The survey shows that, with adequate introductory training: (1) each woman learns what shipyard work is like, and can judge whether she would be capable of handling it; (2) she gains familiarity with the tools and terminology of the shipyards and with shipyard procedure; (3) she develops an employable skill, which gives her confidence in her ability to compete with other workers; (4) those women who should not be hired for shipyard work are screened out before they go into the yards as employees; (5) the women are given instruction and training in advance, which will help them in meeting various work situations in the yards, such as climbing ladders and working in high places. They also learn to dress properly for shipyard work.

The following examples, taken from reports of WMC representatives in the field, show how women are needed in war work and how women workers are meeting their new responsibilities.

In Dallas, Tex., one firm—with some misgivings—employed three women to be trained as auto repair mechanics. When they proved they could learn the work and were undaunted by grease and grime, several more women were hired for training. The manager states that these women are sincere in their desire to learn the automotive repair trade and has recommended further employment and training of women. If they wish, the women who have been trained may now become indentured apprentices with the company. The company designates this group of women as WAMS—Women Apprentice Mechanics.

An ENGINEERING, SCIENCE AND MANAGEMENT WAR TRAINING program for women is in operation for a Boston shipyard. Courses are offered in technical drafting and in an introduction to industrial engineering. For each course about 20 women are enrolled,

selected jointly by Northeastern University and the shipbuilding company. They are paid $25 a week by the firm during the 10 weeks of training. They punch a time clock at the University morning and night, and put in 40 hours of class work and study a week.

The University of Colorado gave two ENGINEERING, SCIENCE AND MANAGEMENT WAR TRAINING courses in aircraft drafting to about 150 full-time paid trainees, most of whom were women. The University of Denver for the last year or more has offered a series of courses in aircraft drafting for full-time paid trainees, most of whom are women.

The National Women's Advisory Committee of the WMC at a conference in Washington February 16 urged that women's clubs and organizations undertake the recruiting of women workers in employment areas where labor is scarce, and for the armed forces. WMC estimates the Nation's working force of women at 18,700,000, which is 900,000 more than were employed in July 1943. Presumably that number of women, or the greater part of them, are available for war production work. This untouched reservoir can reach its full usefulness only through training.

European countries have employed large numbers of women in war work and related industries, especially since the war began, and in most instances women employees have undergone extensive training.

In Russia, for example (INTERNATIONAL LABOUR REVIEW, September 1943), women have played an important part in the medical services at the front, and also "serve, in exceptional cases, in the regular army formations, and in particular in the air force as fighter and bomber crews." All of them were trained for their respective duties. With regard to women in civilian activities, the article says:

"The employment of women in industry, which was already extensive before the war, has been considerably extended, and large numbers of women now work in occupations in which their employment was formerly the exception rather than the rule. In the Merchant Marine it is reported that some ships have crews consisting entirely of women, and women are also extensively employed as dockers and in shipbuilding. Thousands of women are employed in mining, both underground and on the surface, and many of them have received awards for their output, while several large mines are managed by women. On the railways the proportion of women employed rose from 21.7 percent to 30.6 percent between May 15, 1941, and October 1, 1942, and 190,000 women have been trained in railway work during the war. Similarly there has been a big increase in the number of women employed in heavy industry; no total figures have been published, but it has been stated by way of example that the proportion of women employed in the Magnitogorsk works had risen from 25 percent before the war to 37.5 percent at the end of 1942. Many women have been decorated for their industrial exploits as well as for deeds of military valour.

"Women have also been successfully employed in occupations hitherto performed only by men, for instance in forestry, oil drilling, and hunting.

"In the liberal professions nearly a million women are working as engineers, teachers, doctors, and agricultural experts." By far the greater part of these women took training for their various lines of work.

In Great Britain, more than 8,500,000 women, all those between 18 and 45 years old, are registered for some form of national service. British women are trained for industrial work at Government expense at 25 training centers and 150 technical colleges in courses that last from 5 weeks to 3 months. At the beginning of 1943, more than 2 million women were working in munitions and other key industries. In the royal ordnance factories, 60 percent of the employees are women; in the iron and steel industry, 13.5 percent; in aircraft, 40 percent; more than 105,000 are working on the railways, and 7,000 women are bus conductors in London. Many professional women, too, are in the war effort; there being 5,223 women scientific assistants at the Ministry of Supply alone.

First-Hand Account of a Woman War Worker

SHIPYARD DIARY OF A WOMAN WELDER, *by Augusta H. Clawson, Penguin Books, Inc., New York. 181 pages. 25 cents.*

STEP RIGHT UP, folks, it's authentic! In this timely little paper-bound volume "Gus" tells all—all that any woman who has never done "men's work" needs to know to get her excited about taking a man-sized job in a shipyard. And for the USES interviewer who is helping women on their way to such jobs, it's full of practical pointers.

The writer of this unusual day-by-day account is a Special Agent, Training Women for War Production in the Vocational Division of the U. S. Office of Education. To find out how the training was being done and how it might be improved, Miss Clawson hopped a train for Oregon and went to a USES office which served a large shipyard. She was immediately referred as a welder trainee and the next day she was sitting in Booth 15, learning to weld.

The main thing needed to improve the training program, Miss Clawson has concluded, is greater attention to preparation for entry into a completely new kind of life and work. "Forewarned is forearmed" is the message she has for personnel directors, USES interviewers, and training authorities. If a woman is adequately prepared for the job ahead, she can meet it without fear, anxiety, or strain, and can give her best to it. Adequate preparation includes, first, skill in the occupation, and second, knowledge of the working conditions under which that skill will be practiced. It is all very well to learn to do vertical welding sitting down in Booth 15, but doing it standing on a stool in the hold of a ship while the din around you is beyond belief and your loudest yell couldn't be heard a foot away, is another story.

This book not only tells what the well-dressed woman welder should wear to protect hands, face, hair, and feet from the hazards of work in a shipyard, but Miss Clawson has managed to convey something of the camaraderie among employees. She brings you, too, the mad-hatter atmosphere of the shipyard—where all is noise, and apparent confusion and idleness—but which soon becomes an understandable pattern.—MARGARET W. DUDLEY, *Assistant Employment Analyst, War Manpower Commission.*

Tailor-Made For Industry

. . *By* MAX CHAMBERS

Training Representative, Bureau of Training
War Manpower Commission

PAID PRE-PRODUCTION TRAINING is a training plan now being adopted on a Nation-wide basis. Carried on principally in out-plant centers under the direction of experienced training officials, it has proved very effective in overcoming many of the manpower problems facing industry. It was created when it became apparent that workers could no longer be secured to take training on a voluntary basis to prepare them for war production jobs, and a more satisfactory method of securing trained workers was needed. Under paid pre-production training the workers are hired in the same way as other plant workers and placed on machines or benches in out-plant training centers operated by the schools and colleges instead of on plant production equipment.

Through the use of training facilities and personnel of vocational schools and colleges, either in these training centers or on special equipment set aside in the plant itself, it is possible to keep plant production equipment *in production.*

The principal features of paid pre-production training are (1) the new workers are placed on the plant's pay roll; and (2) they are assigned to an organized training program where they receive specific intensive organized training from skilled instructors provided by the out-plant training agencies. All workers, whether performing an operation requiring a single skill or a complicated operation calling for a multiplicity of complete skills, must be given a degree of training by one method or another.

This plan, tailored to fit each plant's individual needs, allows very close association with the program in all its practical aspects and provides control of the courses given and the length of training period. It furnishes an excellent foundation for a highly effective induction program and more often than not, this training, based on industry standards, pays its own way. It most certainly shortens the period between hiring and full production and provides an easy avenue of transfer from the pre-production training center to production on the job.

The difficulty facing potential workers who cannot undertake training on their own time is overcome by the PAID PRE-PRODUCTION TRAINING PLAN. Careful selection of workers from less essential industries brings into war plants the type of personnel who can be fully utilized for maximum war production. The "know how" of the schools and of the plant are combined into an effective production training team that brings many fine results, including that of assisting the foreman in meeting his training responsibilities. The plant gets better trained personnel and the worker's opportunities for upgrading are increased.

The instructors, training, and plant officials working together develop a clear understanding and appreciation of their problems and concentrate their efforts on finding quicker and easier ways of getting out war production. The demands on these officials are heavy but the rewards in the new instructional procedures, related information, disciplinary control, and a wider spread of contacts, a more stable working force, and increased production amply justify the effort.

Paid pre-production training has been established for hundreds of plants but there still are thousands of plants which would find it advantageous to adopt this type of organized training. They will find it relatively easy to readjust their present programs to include paid pre-production training. For complete, detailed information concerning the plan, employers, as well as WMC and USES personnel, should ask the nearest WMC Area Office or the Bureau of Training, War Manpower Commission, Washington, for a copy of the new bulletin, "Questions and Answers: Paid Pre-production Training Using Out-Plant Training Facilities."

(*Continued from Page 11*)

reporting function plays an important part in the determination of the utility of the councils, and should be established promptly to prevent waste and duplication of effort, and to keep all levels informed on important developments. A two-way channel for the flow of information, without undue delay, is a fundamental requisite to utilize completely the total potentialities of training councils.

A beginning toward this goal has already been made in a few regions through the simple device of forwarding copies of training council minutes up the line from one level to another. The high lights from all the minutes are assembled into a training news letter, together with other information on important developments and trends, which is sent back down the line to all agency representatives. Where this procedure has been adopted, the results have been most encouraging.

As the training problems of the war program become more severe and specific, the need for well-developed training councils at all levels of operation becomes increasingly apparent. A highly developed and efficiently operating organization of the Nation's key training representatives, reaching from the field to Washington headquarters, will do much to provide solutions for our war production problems.

Colleges Train for War

. . *By* H. T. BRISCOE

Director, Professional and Technical Training Division, Bureau of Training, War Manpower Commission

"HOW CAN colleges and universities effectively participate in the war effort?" This was one of the most vital questions of the day when our defense program began. The answer was—and is—providing the technical and professional training that the armed forces require for many of their members, and the training of men and women as engineers, scientists, and supervisors to man the war industries.

Such persons are needed in large numbers to make plans, create designs, supervise construction, control production, inspect raw materials, and sometimes locate new sources of raw materials, test finished products, conduct research leading to new weapons of war or to the increased effectiveness of old weapons, and to perform many other technical and supervisory services. In addition, we must not forget that from the colleges and universities must come the professional personnel required to safeguard the health of our civilian population, teach our children, and perform many other essential civilian activities that cannot be neglected even in time of war.

The demands for professionally and technically trained people who can perform these varied services are steadily increasing and, in looking toward the future, the principal problem of the Professional and Technical Training Division is to maintain something like an adequate supply in the face of extremely discouraging conditions. For example, a little less than 13 percent of the students now enrolled in the schools of medicine will graduate as civilians during the next 3 years. This number is far short of the probable losses in the ranks of physicians because of death, retirement, and enlistment in the armed forces. The enrollment of men in the agricultural sciences, in forestry, bacteriology, and other important scientific fields is confined to those who are unqualified for military service, and the supply for the future is almost negligible. In engineering and other technical fields of training, the enrollment since last year in many schools has dropped as much as 60 to 70 percent and is still decreasing. Current policies provide for the deferment of only 10,000 men in engineering, chemistry, physics, geology, and geophysics in addition to seniors who can graduate by July 1944. From these few able-bodied men, over-38's, IV-F's, dischargees from the armed forces, and from women students, must come our future supply of trained workers on the professional and technical level.

Our principal problem, therefore, remains that of advising higher educational institutions of the needs for trained professional and technical personnel in the critical occupations mentioned above. The institutions must make known to their students these needs and the opportunities that are open to those who can qualify.

In order that it may supply colleges and universities with the information that they need in adjusting their training courses to meet the demands for professional and technical personnel, the Division must maintain continuous contacts with the National Roster, Army, Navy, Veterans' Administration, the United States Office of Education, other agencies of Government, and many professional and scientific groups. Through the surveys made by the local offices of the USES and the National Roster we keep in touch with the needs of industry. From all these sources we obtain information of value in ascertaining the fields in which training should be offered and the numbers to be trained. In return, the Coordinating Committee on Professional and Technical Personnel and Service offers assistance to all these groups in the study and solving of their problems. This committee operates under the chairmanship of the chief of the division, and in it are brought together representatives of the Selective Service System, the United States Office of Education, and various groups of the WMC which are concerned with problems involving professional and technical personnel.

So long as the war lasts, the lines of supply by which these specialists are fed into the different battle fronts, both at home and away from home, must be kept open. To keep them open is the problem with which the Professional and Technical Division shall be most concerned.

THE RECORDS show that in all the United States there are 1,756 institutions of higher education. They are divided into 754 4-year colleges and universities, 272 professional schools, and 189 4-year teachers colleges, making a total of 1,215 degree-granting institutions; and 52 2-year normal schools and 489 junior colleges, thus making up the total of 1,756.

The extent to which these institutions are being used by the military services is indicated by the number of Army and Navy schools and the total enrollment. At the time these figures were compiled, late in 1943, 547 institutions had authorized Army or Navy or both types of schools. Of this total, 27 were in junior colleges and 1 in a 2-year normal school. All the rest, or 519, were in degree-granting institutions.

At that time the total enrollment in these 547 Army and Navy schools was 404,413. The number has been considerably reduced since that time, especially as a result of the Army's curtailment of its ASTP program.

It should be noted that some institutions have several types of schools and that these figures do not take duplications into account.

SOCIAL SCIENCES

A Chance to Catch Up!

. . *By* RAYMOND S. WARD

Chief, Management Division, Bureau of Training, War Manpower Commission

ONE OF THE most vital problems confronting the Nation is that of speedy absorption of returning World War II veterans into the normal economic life. Already the problem is a sizable one and it will grow in stature and complexity as the discharge rate increases; and after D-day it will be one of our all-time. toughest problems.

The problem of his future is also a big one to the soldier himself. He wants a job, he expects to get one, and he certainly has a gilt-edged right to one. He can have his old job if it has not vanished, but his service experience may have developed him beyond the old job, and very properly he will be ambitious for a better opportunity in gainful employment. If so, how can he achieve this ambition?

The answer seems to be through training and educational opportunities. These exist for handicapped veterans in the vocational rehabilitation programs already operating in the Veterans' Administration and in the Office of Vocational Rehabilitation of the Federal Security Agency. They both include training opportunities in vocational schools and educational opportunities in outstanding colleges and universities, as well as training on the job in "well-established business enterprises." Training allowances, with additional amounts for dependents, will make it possible for veterans with family responsiblities to take advantage of these training or educational opportunities. Courses of instruction are limited to 4 years and the training or education must be completed within 6 years after the end of the war.

Educational opportunities will also be available to able-bodied returning veterans when Congress has agreed on one of the various legislative proposals now before it. Just as war training and education have been necessarily geared to a relatively narrow band of occupations directly related to essential war production, so the peacetime training proposals for veterans are being geared to the widest possible range of activities.

The main features of most of the bills so far introduced offer a wide choice of education and training in outstanding institutions, or apprentice training on the job to all veterans (including WACS, WAVES, SPARS, and Women Marine Reserves) who wish to pursue educational advancement when they come home from the war, or to prepare to enter some profession or scientific field which may have suffered due to casualties of war. In general they offer at least 1 year's training with a maximum of 4 years on a selective basis. The individual will be free to make a choice of educational institutions, will receive training allowances for himself and dependents, and all tuition, and other expenses incidental to the course, such as books and equipment, will be paid for by the Government.

It has been roughly estimated that 1 million veterans would apply for at least 1 year's training, that 200,000 could be expected to go into the second year of educational training. Cost of such a program was approximated at $1 billion.

Presently, too, there are available to returning veterans, under the various programs coordinated in WMC's Bureau of Training, many courses leading to war-production employment. These include: Farm work, trade and industrial education, supervisory training, engineering, science and management training at college levels, apprentice training; in fact, practically all kinds of training at all school levels, both secondary and college

The Bureau of Training is also playing an important part in helping to achieve objectives of the WMC's "Veterans' Demonstration Centers," opened last January in USES offices in various sections of the country. These offices are assembling centers of all types of service and information for veterans, including educational and training programs.

While urban industries doubtless will absorb the great bulk of returning servicemen, it is expected many of them will turn to agricultural occupations for post-war adjustment. Because of this, short-unit intensive courses in vocational agriculture and farm machinery are also being proposed for returning veterans.

A tragic aspect of the World War I veterans' post-war life has been that, try as he would, he could never quite "catch up" with his contemporaries who were not called upon to take time out for the war. This need not be true for World War II veterans if free education and training are opened to them.

AIRCRAFT COMPANY PROFITS FROM ESMWT

SINCE FEBRUARY of 1943, the University of California has trained over 1,000 foremen and supervisors of the Consolidated-Vultee Aircraft Corporation in 17 sections of an ESMWT course in control of production. Top management at this plant was so well convinced of the value of this training that it asked for a follow-up course in November in which many of the same trainees progressed to advanced work in production control.

Commenting on the effect of this training, an official of the company said: "This plant is the only major aircraft plant now operating on schedule. . . . The course, CONTROL OF PRODUCTION, has been one of the major factors in making possible this record."

PUBLIC LIBRARY
APR 18 1944
DETROIT

U. S. GOVERNMENT PRINTING OFFICE: 1944